



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,666	02/05/2002	Takashi Hiroi	501.41125X00	4688
20457 7590 07/30/2007 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER BERMAN, JACK I	
			ART UNIT 2881	PAPER NUMBER
			NOTIFICATION DATE 07/30/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

officeaction@antonelli.com  
dprater@antonelli.com  
tsampson@antonelli.com

TH

**Office Action Summary**

Application No.

10/062,666

Applicant(s)

HIROI ET AL.

Examiner

Jack I. Berman

Art Unit

2881

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3,5,6,10-16 and 20-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,5,6,10-16 and 20-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Applicant's arguments in the Appeal Brief filed April 10, 2007, with respect to the rejection(s) of claim(s) 3, 5, 6, 10-16, and 20-30 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mizuno, Gallarda et al., and Worster et al., a newly discovered reference.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 5, 6, 12-16, and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno in view of Worster et al. (U. S. Patent No. 5,963,314). As was explained in previous Office actions, Mizuno discloses a method comprising the steps of: irradiating a charged particle on a surface of a substrate on which a pattern is formed (lines 57-65 in column 3); producing an image of said substrate surface by detecting secondary electrons generated from said substrate as a result of the irradiation (line 66 in column 3 through line 8 in column 4); producing a digital image by subjecting the produced image signal to A/D conversion (lines 37-39 in column 6); comparing the digital image with a reference image and extracting a defect candidate (lines 44-53 in column 3); outputting an actual image of the extracted defect candidate and data comprising the location of the defect candidate, via a storage medium (lines 41-43 in column 6); storing said outputted actual image of the extracted defect candidate and data comprising the location of the defect candidate (lines 39-41 in column 6) including data

Art Unit: 2881

enabling the classification of the defect (lines 53-58 in column 6); and displaying on a screen in a map format the defect candidate location data outputted via either said storage medium or network (lines 35-40 in column 4). As Applicant has argued in the Appeal Brief filed on April 10, 2007, Mizuno does not teach to display a selected one of the stored actual images of the extracted defect candidates which is designated on the screen among the extracted defect candidate data displayed in said map format on said screen so that the selected one of the stored actual images is displayed together with said map format on said screen. In the previous Office action, the examiner argued that since Mizuno teaches to display both a wafer map and defect images, it would have been obvious to a person having ordinary skill in the art to arrange these displays in any format that such a person found to be convenient, including on the same screen. Applicant has characterized this argument as an illegitimate “obvious to try” test of patentability since there is no teaching in the cited prior art to use a format of an actual image of a defect that is designated on the map format display together with the map format display. Such a teaching is found in Worster et al. at line 29 in column 13 through line 44 in column 14 and illustrated in FIG. 4, which discloses a display method for another type of wafer method (using a scanning laser rather than a scanning laser beam) that displays a defect image and a wafer map on the same screen so that an operator can select a stored image of a defect to display by using, for example, a mouse to “point” and “click” on a defect indicated on the wafer map. Since Mizuno teaches, at lines 6-10 in column 7, that stored information can be displayed according to need and that, as is discussed above, both the actual images of defects and a wafer map are stored in a memory, it would have been obvious to a person having ordinary skill in the art to display a selected one of the stored actual images of the

Art Unit: 2881

extracted defect candidates which is designated on the screen among the extracted defect candidate data displayed in said map format on said screen so that the selected one of the stored actual images is displayed together with said map format on said screen in the manner taught by Worster et al. in order to make use of the point and click system control method disclosed by Worster et al.


Claims 10, 11, and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno and Worster et al. as applied to claims 3, 5, 6, 12-16, and 25-30 above, and further in view of Gallarda et al. (U. S. Patent No. 6,539,106). As was explained in previous Office actions, Gallarda et al. discloses the steps of changing threshold value data for detecting defect candidate of said pattern on said screen and displaying on said screen utilizing said changing threshold (i.e. updating the display in accordance with the changing threshold) (column 8, lines 59-60; column 12, lines 37-42), defect candidate matching (column 13, line 56-column 14, line 19), displaying designated classified defect candidate locations in map format on the screen (column 16, lines 60-63), and producing a list or table from among said classified defect candidates so that they are displayed on said screen discriminately from each other in the map format (column 14, lines 58-62).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack I. Berman whose telephone number is (571) 272-2468. The examiner can normally be reached on Monday-Thursday (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2881

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jack I. Berman  
Primary Examiner  
Art Unit 2881

jb  
7/20/07